

REMARKS

Claims 73-80 have been allowed.

Claims 66-68 have been indicated as objected to dependent claims.

Claim 63 has been amended to include the limitations of dependent claim 66 along with intervening claims 64-65.

Dependent claim 68 has been amended to include the limitations of base claim 63 along with intervening claims 64-65.

Claim 52 has been objected to because the claim is listed twice and the second occurrence of claim 52 is a duplicate of claim 58. Applicants cancel the second occurrence of claim 52.

Claims 51, 53-59, 63-65 and 69-72 were rejected under 35 U.S.C. 103(a) as being unpatentable over Tomasz in view of Uramoto, Keate, Birleson and MPEP 2144.04.

Claims 71-72 have been canceled.

Claims 63 and 69-70 are now in condition for allowance in view of the previously discussed amendment made to claim 63.

Claim 51 recites an off-chip “surface acoustic wave filter” positioned between an upconversion stage and a zero-IF downconversion stage. The Examiner points to Tomasz which teaches the use of a SAW filter as a bandpass. The Examiner states that the SAW filter in Tomasz is “a conventional bandbass filter for a upconversion stage.” This statement is not correct.

The Examiner points to Tomasz Figure 1. The intermediate frequency bandpass filter in Figure 1 is shown at reference 106. There is no indication in Figure 1, or in the description of Figure 1, for the filter 106 to be a SAW filter.

Tomasz Figure 1 does show a SAW filter at reference 110. However, Tomasz clearly teaches that this SAW filter 110 is used as an output filter following the downconversion performed by downconverter 108.

Thus, Figure 1 of Tomasz does not support the Examiner’s position that Tomasz teaches the use of a SAW filter positioned between an upconversion stage and a zero-IF downconversion stage as claimed by Applicants.

The Examiner further points to Tomasz col. 3, lines 11-14. Here, Tomasz describes the circuit of Figure 2. A bandpass filter 210 is provided between the upconversion mixer 208 and the downconversion mixers 214. However, Tomasz specifically teaches that this bandpass filter 210, because of “relaxed constraints,” can take on “a simplistic design” than can be “integrated on a single integrated circuit 216 with the remaining components” (col. 3, lines 1-5). There is no teaching here for using a SAW filter positioned offchip. Indeed, the specific teaching is for a full integrated design.

Tomasz mentions a SAW filter at col. 3, lines 11-14. However, Tomasz discusses such a SAW design as being a “more intricate filter” for use in a radio design to be avoided (col. 3, lines 5-14).

The forgoing is emphasized by Tomasz at col. 3, lines 50-54 which teach that the downconversion to baseband in Tomasz Figure 2 simplifies intermediate (bandpass) filter

constraints. There is no SAW filter used in Tomasz between an upconversion stage and a zero-IF downconversion stage as claimed by Applicants.

Applicants would further direct the Examiner's attention to Tomasz col. 4, lines 51-65. Here, Tomasz specifically teaches that the intermediate (bandpass) filter 210 is a simplistic L-C based filter (col. 4, line 59). Such a filter could be integrated. However, if an off-chip filter is instead used, Tomasz teaches that the filter is instead implemented with "spiral-metal-based inductors" off chip in combination with capacitors on chip. Again, Tomasz does not teach or suggest the use of SAW filter.

Claim 52 was rejected under 35 U.S.C. 103(a) as being unpatentable over Tomasz in view of Uramoto, Keate, Birleson, MPEP 2144.04 and Misaizu. Claim 52 is patentable for the reasons recited above with respect to claim 51.

In view of the foregoing, Applicants respectfully submit that the application is in condition for favorable action and allowance.

The Office is authorized to charge any additional claim fees necessary for entry of this response to deposit account 07-0153 (reference 361170-1028).

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